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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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FULBRIGHT & JAWORSKI, LLP
666 FIFTH AVE
NEW YORK, NY 10103-3198

EXAMINER	
TSOY, ELENA	

ART UNIT	PAPER NUMBER
1762	

DATE MAILED: 08/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/980,182	GROS, GEORG
	Examiner	Art Unit
	Elena Tsoy	1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2004* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26, 28-31, 33-35, 46, 48-50, 59-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26,28-31,33-35,46,48-50 and 59-70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *8/2/04* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 2, 2004 has been entered.

Response to Amendment

2. Amendment filed on August 2, 2004 has been entered. Claims 1-25, 27, 32, 36-45, 47, 51-58 have been cancelled. New claims 59-70 have been added. Claims 26, 28-31, 33-35, 46, 48-50, 59-70 are pending in the application.

Claim Objections

3. Objection to claim 46 because of the informalities has been withdrawn.

Double Patenting

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claims 63-66 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 59-61 respectively. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper

after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Rejection of claims 26-35, 55 and 56 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement as failing to describe claimed "at least 20 % by weight of a conductive inorganic pigment selected from the group consisting of magnetizable oxides of iron, phosphates of iron, phosphides of iron, phosphates of aluminum, phosphides of aluminum, and graphite coated mica pigments to the surface of metallic substrate" has been withdrawn.

8. Claims 26, 28-31, 33-35, 46, 48-50, 59-70 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims recite "... wherein the slidable anticorrosive layer is electroconductive and the electroconductivity of the laver is provided **only** by said inorganic pigment", which was not described in the specification. The specification as filed and originally filed claims disclose only that **a conductive inorganic pigment** is present in a coating mixture (See page 4, paragraph 4 and original claims 1-3). No electroconductivity of a layer or pigment is mentioned in the specification as filed and originally filed claims.

9. Claims 26, 28-31, 33-35, 46, 48-50, 59-70 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims recite "at least 10 % by weight of a conductive inorganic pigment" and "at least 20 % by weight of a conductive inorganic pigment" which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as filed discloses that the coating composition comprises inorganic pigments, in particular anticorrosive or antirust pigments, for instance oxides, phosphates or phosphides of iron or aluminum, and other conductive pigments, for instance graphite-mica pigments (See page 4, paragraph 4), and **Pigment** is present in the coating mixture in an amount of 10 to 40 % by weight (See page 4, paragraph 5-6). Originally filed claims recite that a conductive inorganic pigment is present in a coating mixture in an amount of 10 to 40 wt % (See originally filed claim 3). Therefore, the specification as filed and originally filed claims do not have support for claimed amount of **at least** 10 % by weight (i.e. up to 100 wt %) of a conductive inorganic pigment.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. **Claims 26, 28-31, 33-35, 46, 48-50, 59-70** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni (US 6,054,514) and Odawa et al (US 5,578,669).

Kulkarni discloses a method of applying an anticorrosive layer to a metallic substrate (See column 1, lines 11-19) comprising applying to the surface of the metallic substrate such as cold rolled steel Q-panel (a flexible steel sheet) (See column 5, lines 53-54) a coating mixture, said coating mixture comprising a polymer of acrylics (a polymeric organic binder), a monomer of acrylics (a low-molecular liquid compound) and oligomer of acrylics (See column 10, lines 9-16); intrinsically conductive polymer in **neutral form** (See column 4, line 59) such as polyaniline (a polymeric organic binder) (See column 4, lines 66-67), a corrosion inhibiting additive mixture comprising **0**-5 wt % an organic sulfonic acid and **0**-15 wt % butyrolactone (See column 5, lines 49-51), and conductive inorganic pigments such as aluminum tripolyphosphate (See column 8, lines 21-22; column 10, lines 43-44), which is an *electrically conductive aluminum phosphate pigment,* as shown by Odawa et al at column 35, lines 33-34, and curing the applied coating by heat, radiation or simply by air drying to form the corrosion-resistant layer (See column 5, lines 13-14). The coating mixture is applied to obtain a layer thickness of *at least* 0.1 mils (2.54 microns) (See column 5, lines 9-11). The coating may be cured by radiation right after applying to the metallic surface (See column 5, lines 13-14). Thermal post-curing is not addressed because it is *optional.*

The Examiner's Note: since a coating composition of Kulkarni may be formulated with only aluminum tripolyphosphate (i.e. only one kind of electrically conductive inorganic pigment) the electroconductivity of the anticorrosive layer may be provided **only** by aluminum phosphate inorganic pigment.

Kulkarni fails to teach that the coating mixture comprises at least 20 wt % of the conductive inorganic (Claims 26, 28, 31, 33, 35, 46, 48-50, 59, 63) or at least 10 wt % of the conductive inorganic (Claim 67).

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration parameters of a conductive inorganic (including those of claimed invention) in a method of Kulkarni through routine experimentation in the absence of a showing of criticality.

As to claims 28, 30, 35, 48, 50, 60, 62, 64, 66, 68 70, Kulkarni teaches that it is well known in the art that organic coatings have long been used for corrosion protection due to their barrier properties. Coatings that provide active corrosion inhibition such as zinc rich coatings and chromates, phosphates and the like, have been the mainstay of the industry for many years. The zinc rich coatings provide cathodic protection, while the chromates and phosphates are believed to passivate the metal. Innumerable inorganic pigments and fillers have been so claimed to provide corrosion protection. Multiple coatings are often necessary to overcome non-uniformities and pin holes that are the source of corrosion in organic coatings. See column 1, lines 23-34.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided active corrosion inhibition such as zinc rich coatings and chromates under the organic coating of Kulkarni with the expectation of overcoming non-uniformities and pin holes that are the source of corrosion in organic coatings, well known in the art.

12. **Claims 26, 28-31, 33-35, 46, 48-50, 59-70** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni (US 6,054,514) and Odawa et al (US 5,578,669) in view of Sobata et al (US 4,939,034).

Kulkarni and Odawa et al are applied here for the same reasons as above.

Kulkarni and Odawa et al fail to teach that the coating mixture comprises at least 20 wt % of the conductive inorganic (Claims 26, 28, 31, 33, 35, 46, 48-50, 59, 63) or at least 10 wt % of the conductive inorganic (Claim 67).

Sobata et al teach that usually 15-86 wt % (See column 11, lines 44-45) of **any** electroconductive pigments known in the art (See column 11, lines 25-29) including iron phosphide (See column 11, lines 40-43) and aluminum tripolyphosphate pigment (See column 11, lines 62-63) provide anti-corrosion effect and processability (See column 11, lines 44-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used electroconductive magnetic iron oxide pigments in a coating mixture of Kulkarni and Odawa et al in an amount of 15-86 wt % to provide anti-corrosion effect, as taught by Sobata et al.

13. **Claims 49, 59, 61, 63, 65, 67, 70** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bristowe et al (US 4,213,837.

Bristowe et al disclose a method of applying an anticorrosive layer (See column 7, line 27) to a metallic substrate (See column 7, line 9) such as steel Q-panel (a flexible steel sheet) (See column 7, line 13) comprising applying to the surface of the metallic substrate a coating mixture, said coating mixture consisting of a vinyl ester urethane (a polymeric organic binder) (See column 1, lines 9-11), a reactive vinyl monomer (a low-molecular liquid compound) (See column 6, lines 63-66; example 14); photosensitizer such as benzophenone (a compound forming

free radicals under the influence of actinic radiation) (See column 10, line 37; column 12, line 11); color pigments, fire retardant additives and fillers such as magnetic iron oxides (electrically conductive inorganic pigment) to alter physical properties of the final product (See column 7, lines 2-6), and curing the applied coating by heat or radiation (See column 7, lines 14-21) to form the corrosion-resistant layer (See column 7, lines 27-28). The coating may be cured by radiation right after applying to the metallic surface (See column 12, lines 13-14). Thermal post-curing is not addressed because it is *optional.*

The Examiner's Note: since a coating composition of Bristowe et al may be formulated with only one kind of electrically conductive inorganic pigment, e.g. magnetic iron oxide, the electroconductivity of the anticorrosive layer may be provided **only** by magnetic iron oxide inorganic pigment.

Bristowe et al fail to teach that the coating mixture comprises at least 10 wt % of the conductive inorganic (Claims 67, 70) or at least 20 wt % of the conductive inorganic (Claims 49, 59, 61, 63, 65).

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration parameters of a conductive inorganic (including those of claimed invention) in a method of Bristowe et al through routine experimentation in the absence of a showing of criticality.

14. **Claims 49, 59, 61, 63, 65, 67, 70** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bristowe et al (US 4,213,837 in view of Sobata et al (US 4,939,034).

Bristowe et al are applied here for the same reasons as above.

Bristowe et al fail to teach that the coating mixture comprises at least 10 wt % of the conductive inorganic (Claims 67, 70) or at least 20 wt % of the conductive inorganic (Claims 49, 59, 61, 63, 65).

Sobata et al teach that usually 15-86 wt % (See column 11, lines 44-45) of **any** electroconductive pigments known in the art (See column 11, lines 25-29) including iron phosphide (See column 11, lines 40-43) and aluminum tripolyphosphate pigment (See column 11, lines 62-63) provide anti-corrosion effect and processability (See column 11, lines 44-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used electroconductive magnetic iron oxide pigments in a coating mixture of Bristowe et al in an amount of 15-86 wt % to provide anti-corrosion effect, as taught by Sobata et al.

15. **Claims 26, 28-31, 33-35, 46, 48, 50, 60, 62, 64, 66, 68, 69** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bristowe et al (US 4,213,837/in view of Sobata et al (US 4,939,034), further in view of Kulkarni (US 6,054,514).

Bristowe et al/in view of Sobata et al, as applied above, fail to teach that both organic coatings and zinc rich coatings or chromates can be used for providing the metallic substrate with active corrosion inhibition; the coating mixture is applied to obtain a layer thickness of 2-8 microns.

Kulkarni teaches that it is well known in the art that organic coatings have long been used for corrosion protection due to their barrier properties. Coatings that provide active corrosion inhibition such as zinc rich coatings and chromates, phosphates and the like, have been the mainstay of the industry for many years. The zinc rich coatings provide cathodic protection,

while the chromates and phosphates are believed to passivate the metal. Innumerable inorganic pigments and fillers have been so claimed to provide corrosion protection. Multiple coatings are often necessary to overcome non-uniformities and pin holes that are the source of corrosion in organic coatings. See column 1, lines 23-34.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided active corrosion inhibition such as zinc rich coatings and chromates under the organic coating of Bristowe et al/in view of Sobata et al with the expectation of overcoming non-uniformities and pin holes that are the source of corrosion in organic coatings, as taught by Kulkarni.

Although Bristowe et al teach in examples that anticorrosive layer may be applied as thick as 1 mil, Kulkarni teaches that very thin layers of *at least* 0.1 mils (2.54 microns) may provide anti-corrosive properties (See column 5, lines 9-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the coating mixture of Bristowe et al to obtain thin layers including layers of *at least* 0.1 mils (2.54 microns) depending on intended use of the final product since Kulkarni teaches that a layer thickness of *at least* 0.1 mils (2.54 microns) may provide anti-corrosive properties.

16. The prior art made of record and not relied upon is considered pertinent to applicant disclosure.

Palm et al (US 3,849,141) show that magnetic iron oxide (magnetite), is an electroconductive pigment (See column 6, lines 14-18).

Shindou et al (US 4,876,160) show that when the thickness of the coating film of the coating composition is less than 0.3 microns as a solid film, corrosion resistance is not sufficient

and when it is more than 5 microns, difficulties occur in spot weldability and appearance of the electrodeposited coating. The practically preferred range of thickness is 0.5-2 microns.

Response to Arguments

17. Applicants' arguments filed August 2, 2004 have been fully considered but they are not persuasive.

Applicants argue that Sobata et al teach away from using amounts of less than 30% and greater that 70 % of electrically conductive pigments, and the claimed range of Applicants is, therefore, not suggested by Sobata et al.

The Examiner respectfully disagrees with this argument. First of all, Sobata et al teach 15-86 wt % of conductive pigments, *preferably* 30 wt %-70 wt% (See column 11, lines 44-47). Secondly, Applicants also claim more than 30 wt % since claimed "**at least** 10 wt %" of a conductive inorganic pigment include. unlimited amount of a conductive pigment, even up to 100 wt %.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ELENA TSOY
PRIMARY EXAMINER

ETsoy

Elena Tsoy
Primary Examiner
Art Unit 1762

August 26, 2004